WHAT IS CLAIMED IS:

1. A sheath for a therapeutic vasoocclusive device, the vasoocclusive device including an assembly of a flexible pusher member and an embolic coil, the sheath comprising:

a hollow, elongated tubular member having opposing upper and lower walls, opposing side walls, and a longitudinal interior channel; and

a longitudinal slot formed in the upper wall of the elongated tubular member and extending the length of elongated tubular member, the slot having opposing sides with inner side surfaces extending through the upper wall of the elongated tubular member leading to the interior channel permitting introduction of the vasoocclusive device into the interior channel.

2. The sheath of Claim 1, wherein the upper wall of the elongated tubular member adjacent to the slot has an angled configuration on the outside surface of the hollow, elongated tubular member.

3. The sheath of Claim 2, wherein the angled configuration on the outside surface of the hollow, elongated tubular member has opposing exterior surfaces forming an interior angle of about 110° to 150°.

4. The sheath of Claim 1, wherein the lower wall of the hollow, elongated tubular member is about 0.002 to 0.004 inches thick to allow the opposing sides of the slot of the hollow, elongated tubular member to flex outwardly to allow the slot to open to accept the vasoocclusive device.

5. The sheath of Claim 1, wherein the hollow, elongated tubular member is formed from a thermoplastic material.

6. The sheath of Claim 1, wherein the hollow, elongated tubular member is formed from a high density polyethylene.

7. The sheath of Claim 2, further comprising wing members extending outwardly from the angled configuration on the outside surface of the hollow, elongated tubular member to facilitate insertion of the vasoocclusive device into the sheath.

8. The sheath of Claim 7, wherein the wing members of the angled configuration on the outside surface of the hollow, elongated tubular member have opposing exterior surfaces forming an interior angle of about 110° to 150°.

9. A sheath for a therapeutic vasoocclusive device, the vasoocclusive device including an assembly of a flexible pusher member and an embolic coil, the sheath comprising:

a hollow, elongated tubular member having opposing upper and lower walls, opposing side walls, and a longitudinal interior channel;

a longitudinal slot formed in the upper wall of the elongated tubular member and extending the length of elongated tubular member, the slot having opposing sides with inner side surfaces extending through the upper wall of the elongated tubular member leading to the interior channel permitting introduction of the vasoocclusive device into the interior channel, wherein the upper wall of the elongated tubular member adjacent to the slot has an angled configuration on the outside surface of the hollow, elongated tubular member.

10. The sheath of Claim 9, wherein the angled configuration on the outside surface of the hollow, elongated tubular member has opposing exterior surfaces forming an interior angle of about 110° to 150°.

11. The sheath of Claim 9, wherein the lower wall of the hollow, elongated tubular member is about 0.002 to 0.004 inches thick to allow the opposing sides of the slot of the hollow, elongated tubular member to flex outwardly to allow the slot to open to accept the vasoocclusive device.

12. The sheath of Claim 9, wherein the hollow, elongated tubular member is formed from a thermoplastic material.

13. The sheath of Claim 9, wherein the hollow, elongated tubular member is formed from a high density polyethylene.

14. The sheath of Claim 9, further comprising wing members extending outwardly from the angled configuration on the outside surface of the hollow, elongated tubular member to facilitate insertion of the vasoocclusive device into the sheath.

15. The sheath of Claim 14, wherein the wing members of the angled configuration on the outside surface of the hollow, elongated tubular member have opposing exterior surfaces forming an interior angle of about 110° to 150°.

16. A sheath in combination with a vasoocclusive device, the vasoocclusive device including an assembly of a flexible pusher member and an embolic coil that is adapted to be inserted into a portion of a vasculature for occluding a portion of the vasculature for use in interventional therapy and vascular surgery, the sheath comprising:

a hollow, elongated tubular member having opposing upper and lower walls, opposing side walls, and a longitudinal interior channel, and

a longitudinal slot formed in the upper wall of the elongated tubular member and extending most of the length of elongated tubular member, leaving up to about 10cm with no slot, the slot having opposing sides with inner side surfaces extending through the upper wall of the elongated tubular member leading to the interior channel permitting introduction of the vasoocclusive device into the interior channel.

17. The sheath of Claim 16, wherein the upper wall of the elongated tubular member adjacent to the slot has an angled configuration on the outside surface of the hollow, elongated tubular member.

18. The sheath of Claim 17, wherein the angled configuration on the outside surface of the hollow, elongated tubular member has opposing exterior surfaces forming an interior angle of about 110° to 150°.

19. The sheath of Claim 16, wherein the lower wall of the hollow, elongated tubular member is about 0.002 to 0.004 inches thick to allow the opposing sides of the slot of the hollow, elongated tubular member to flex outwardly to allow the slot to open to accept the vasoocclusive device.

20. The sheath of Claim 16, wherein the hollow, elongated tubular member is formed from a thermoplastic material.

21. The sheath of Claim 16, wherein the hollow, elongated tubular member is formed from a high density polyethylene.

22. The sheath of Claim 17, further comprising wing members extending outwardly from the angled configuration on the outside surface of the

hollow, elongated tubular member to facilitate insertion of the vasoocclusive device into the sheath.

23. The sheath of Claim 22, wherein the wing members of the angled configuration on the outside surface of the hollow, elongated tubular member have opposing exterior surfaces forming an interior angle of about 110° to 150°.

24. A sheath in combination with a vasoocclusive device, the vasoocclusive device including an assembly of a flexible pusher member and an embolic coil that is adapted to be inserted into a portion of a vasculature for occluding a portion of the vasculature for use in interventional therapy and vascular surgery, the sheath comprising:

a hollow, elongated tubular member having opposing upper and lower walls, opposing side walls, and a longitudinal interior channel, and

a longitudinal slot formed in the upper wall of the elongated tubular member and extending most of the length of elongated tubular member, leaving up to about 10cm with no slot, the slot having opposing sides with inner side surfaces extending through the upper wall of the elongated tubular member leading to the interior channel permitting introduction of the vasoocclusive device into the interior channel, wherein the upper wall of the elongated tubular member adjacent to the slot has an angled configuration on the outside surface of the hollow, elongated tubular member.

25. The sheath of Claim 24, wherein the angled configuration on the outside surface of the hollow, elongated tubular member has opposing exterior surfaces forming an interior angle of about 110° to 150°.

26. The sheath of Claim 24, wherein the lower wall of the hollow, elongated tubular member is about 0.002 to 0.004 inches thick to allow the opposing sides of the slot of the hollow, elongated tubular member to flex outwardly to allow the slot to open to accept the vasoocclusive device.

27. The sheath of Claim 24, wherein the hollow, elongated tubular member is formed from a thermoplastic material.

28. The sheath of Claim 24, wherein the hollow, elongated tubular member is formed from a high density polyethylene.

29. The sheath of Claim 24, further comprising wing members extending outwardly from the angled configuration on the outside surface of the hollow, elongated tubular member to facilitate insertion of the vasoocclusive device into the sheath.

30. The sheath of Claim 29, wherein the wing members of the angled configuration on the outside surface of the hollow, elongated tubular member have opposing exterior surfaces forming an interior angle of about 110° to 150°.